

TWO NEW SPECIES OF *ROXITA* BLESZYNSKI (LEPIDOPTERA: CRAMBIDAE: CRAMBINAE) FROM CHINA¹

Weichun Li² and Houhun Li²

ABSTRACT: Two new species of the genus *Roxita* Bleszynski are described from China: *R. acutispinata* sp. nov. and *R. capacunca* sp. nov. Images of the adults and the genitalia are provided, along with a key of the known world species.

KEY WORDS: Lepidoptera, Crambidae, *Roxita*, new species, China

Roxita was established as a monotypic genus by Bleszynski in 1963, with *R. eurydyce* Bleszynski, 1963 from China as the type. Gaskin (1984) revised the genus, described four new species: *R. apicella* and *R. mululella* from Malaysia, *R. fletcheri* from N. India, Nepal and Sikkim, and *R. reductella* from India, and transferred three species to the present genus: *R. adpersella* (Snellen, 1893) from Sri Lanka, *R. bipunctella* (Wileman and South, 1917) and *R. szetschwanel-la* (Caradja, 1931) from China. Inoue (1989) described *R. albipennata* from Japan. Chen et al. (2002) recorded *R. apicella* and described two new species of *Roxita* from China: *R. fujianella* and *R. yunnanella*. To date, *Roxita* comprises eleven species, confined mainly to the Indo-Oriental region.

In China, six species of *Roxita* were recorded previously. In this paper we add two new species to the genus and provide a key of the known world species. The terminology follows Gaskin (1984) except that the term phallus is used instead of aedeagus. All the studied specimens are deposited in the Insect Collection, College of Life Sciences, Nankai University, Tianjin, China.

Roxita Bleszynski, 1963

Roxita Bleszynski, 1963: 176. Type species: *Roxita eurydyce* Bleszynski, 1963, by monotypy.

Modestia Bleszynski, 1965: 64. Type species: *Culladia szetschwanel-la* Caradja, 1931, by original designation and monotypy.

Diagnosis. *Roxita* is characterized by the forewing with two terminal spots at apices of cubital veins and with vein M₁ absent; by the male genitalia with the valval costa usually produced into a long and strongly curved apical prong, and the ventral fold of the valva, if present, bearing one or two prong(s); by the female genitalia with the anterior apophysis much shorter than the posterior apophysis and the lamellae ante- and postvaginales often developed into a pronounced protrusion. Gaskin (1984) provided a differential diagnosis of *Roxita*

¹ Received on December 17, 2007. Accepted on February 5, 2008.

² College of Life Sciences, Nankai University, Tianjin 300071, China. E-mails: WL, weichunlee@126.com; HL, lihouhun@nankai.edu.cn (corresponding author).

against superficially similar genera like *Glaucocharis*, and against the closely related genera *Tawhitia* and *Corynophora*.

KEY TO WORLD SPECIES OF *ROXITA* BLESZYNSKI

1. Forewing with basal fascia 2
 - Forewing without basal fascia 7
2. Forewing antemedial fascia forming no angle
 - *R. yunnanella* Sung and Chen
 - Forewing antemedial fascia forming an outward angle near costa 3
3. Valva bearing three long costal setae 4
 - Valva lacking long costal seta 5
4. Valval costa bearing an apical prong, cornutus present*R. apicella* Gaskin
 - Valval costa lacking apical prong, cornutus absent*R. mululella* Gaskin
5. Apical prong of valval costa conspicuously extending beyond tip of cucullus
 - *R. fujianella* Sung and Chen
 - Apical prong of valval costa not extending beyond tip of cucullus 6
6. Apical prong of valval costa reaching about 2/3 of valva
 - *R. eurydyce* Bleszynski
 - Apical prong of valval costa reaching tip of cucullus...*R. capacunca* sp. nov.
7. Forewing antemedial fascia absent *R. reductella* Gaskin
 - Forewing antemedial fascia present 8
8. Forewing postmedial fascia angled twice 9
 - Forewing postmedial fascia angled once 12
9. Apical prong of valval costa conspicuously recurved 10
 - Apical prong of valval costa straight or slightly excurved 11
10. Valva without ventral fold, valval costa ending with two prongs, cornutus present; ductus bursae N-shaped, corpus bursae oval *R. fletcheri* Gaskin
 - Valva with ventral fold, valval costa ending with a single prong, cornutus absent; ductus bursae nearly straight, corpus bursae gourdshaped
 - *R. bipunctella* (Wileman and South)
11. Apical prong of valval costa nearly as long as uncus, apical prong of ventral fold extending beyond tip of cucullus *R. szetschwanella* (Caradja)
 - Apical prong of valval costa about half length of uncus, apical prong of ventral fold not extending tip of cucullus..... *R. albipennata* Inoue
12. Forewing antemedial fascia angled at about 1/4; valva with costal region straight, apical prong of valval costa nearly straight and extending to tip of cucullus *R. adpersella* (Snellen)
 - Forewing antemedial fascia arched at about 1/2; valva costal region rounded, apical prong of valval costa conspicuously curved and extending beyond tip of cucullus *R. acutispinata* sp. nov.

Roxita acutispinata sp. nov.

Figs. 1, 3

Type Material. Holotype ♂: [label 1, white] “Henan Province, Xixia, Huangshi'an (33°40'N, 111°37'E) / leg. Houhun LI, alt. 890 m/ 19 Jul. 1998”; [label 2, white] genitalia slide No. “ZDD01397”; [label 3, red] “*Roxita / acutispinata / Li et Li / Holotype ♂*”. Paratypes: 1 ♂, Henan Province, Neixiang, Xiaguan (33°20'N, 111°47'E), alt. 650 m, 10 Jul. 1998, leg. Houhun LI; 1 ♂, Henan Province, Jiyuan, Mt. Wangwu (35°16'N, 112°10'E), alt. 800 m, 28 Jul. 2006, leg. Denghui KUANG and Hui ZHEN.



Figs. 1-5. *Roxita* spp. 1, 3: *R. acutispinata* sp. nov. 1. male, paratype, 3. male genitalia, holotype (gen. slide no. ZDD01397); 2, 4-5: *R. capacunca* sp. nov. 2. male, paratype, 4. male genitalia, holotype (gen. slide no. LWC07318), 5. female genitalia, paratype (gen. slide no. LWC07316).

Description. Adult (Fig. 1): Wingspan 12.0–13.0 mm. Vertex and frons white. Labial palpus porrect, yellowish brown laterally, white medially. Maxillary palpus with basal area pale yellow; apex white, with diverging scales. Antenna dorsally yellowish white, laterally golden, ciliate ventrally. Thorax white. Tegula pale yellow. Forewing ground colour white, mixed with yellowish brown scales; apex golden; termen golden except for apical area dark yellowish brown; basal fascia absent; antemedial fascia golden, broadly arched outward; post-medial fascia white, outwardly curved from just beyond 2/3 of costa to near 1/3 of termen and angled about 80°, thence running to 4/5 of dorsum, with two small teeth near terminal spots; cilia brown, shiny. Hindwing pale yellow; cilia yellowish white. Foreleg yellowish brown on outer side, yellowish white on inner side; mid- and hindlegs yellowish white.

Male genitalia (Fig. 3): Uncus long and slender, about as long as tegumen, slightly enlarged subapically, pointed at apex. Gnathos long and narrow, nearly as long as uncus, rounded apically. Tegumen narrow. Valva relatively broad, costal margin roundly arched, ventral margin nearly straight. Costal region broadly rounded and projecting, distally produced into a long and strongly recurved apical prong, pointed at apex, extending as far as tip of cucullus before recurving. Cucullus rounded apically. Ventral fold with distal 1/3 dentate dorsally, bearing long and thin spinelike prong at about 1/3 and a small triangular prong at about 2/3 respectively. Saccus broad, somewhat triangular, rounded apically. Juxta indistinct. Phallus tubular, straight, with many scobinations distally; vesica without cornutus.

Female: Unknown.

Etymology. The specific name is derived from the Latin prefix *acut-* = sharp and the word *spinata* = thorn, in reference to the costa ending with a long and strong prong.

Remarks. This species resembles *R. adpersella* in male genitalia, but it can be distinguished easily from the latter species by the broadly projecting costal region distally produced into a long apical prong recurving above the tip of cucullus. In *R. eurydyce*, the costal region is narrow and slightly arched, distally produced into a short prong that extends to only about 3/5 of the valva.

***Roxita capacunca* sp. nov.**

Figs. 2, 4-5

Type Material. Holotype ♂: [label 1, white] “Zhejiang Province, Taishun (27°33'N, 119°42'E), Wuyanling / alt. 930 m / 31 Jul. 2005 / leg. Yunli XIAO”; [label 2, white] genitalia slide No. “LWC07318”; [label 3, red] “*Roxita / capacunca* / Li et Li / Holotype ♂.” Paratypes: 10 ♂♂, 21 ♀♀, same data as holotype except alt. 680-1050 m and dated 28 Jul.–2 Aug. 2005; 8 ♂♂, 1 ♀, Zhejiang Province, Taishun, Wuyanling, alt. 790 m, 2-3 Aug. 2007, leg. Qing JIN; 2 ♂♂, Hunan Province, Zhangjiajie (29°49'N, 110°26'E), alt. 650 m, 7-11 Aug. 2001, leg. Houhun LI and Xinpu WANG; 1 ♂, Guangxi Zhuangzu Autonomous Region, Huaping (25°39'N, 109°55'E), alt. 1300 m, 1 Aug. 2006, leg.

Weichun LI; 4 ♂♂, Guangxi Zhuangzu Autonomous Region, Rongshui (25° 04'N, 109°13'E), Peixiu Village, alt. 579 m, 13 Jul. 2004, leg. Jiasheng XU; 1 ♂, Guizhou Province, Jiangkou (27°41'N, 108°50'E), Huixiangping, 1700 m, 29 Jul. 2001, leg. Houhun LI and Xinpu WANG.

Description. Adult (Fig. 2): Wingspan 11.0-12.0 mm. Vertex and frons white. Labial palpus slightly upward; basal segment whitish yellow; second segment orange yellow laterally, white medially; third segment dark brown ventrally, white dorsally. Maxillary palpus with basal area golden to yellowish brown; apex white, with diverging scales. Antenna dorsally yellowish white, laterally golden, ciliate ventrally. Thorax white to pale yellow. Tegula pale yellow to yellowish brown. Forewing ground colour white, mixed with yellow and brown scales; apex and termen golden; basal fascia pale yellowish brown, oblique; antemedial fascia white, broad, edged with dark brown scales along both sides, forming sharp outward angle near costa, then running to about 1/3 of dorsum in wide, roundish inward curve; postmedial fascia white to pale yellow, edged with yellowish brown to dark brown scales along both sides, forming sharp outward angle from about 2/3 of costa to near 1/4 of termen, thence running to about 2/3 of dorsum, with narrow tooth near 1/2 and 3/4 of termen; slender silvery gray metallic mark below apex nearly parallel with costa; cilia shiny grayish brown except for apex shiny white basally. Hindwing pale brown to dark brown; cilia pale gray to gray. Abdomen yellowish brown. Legs pale yellow.

Male genitalia (Fig. 4): Uncus broad at base, constricted at about 1/4 from base; distal 2/3 expanded to elongate oval, tapering to a small apical point. Gnathos slender, rounded apically. Tegumen narrow. Valva relatively narrow. Costal region broad, slightly shorter than valva; distally tapering and produced into recurved apical prong. Ventral fold distinctly projecting around medial area, forming a large dorsal process bearing strongly outcurved short spine dorso-proximally and large rounded process dorsalapically. Cucullus evenly slender to rounded apex. Vinculum triangular. Saccus moderate, triangular, rounded apically. Juxta with basal half narrow, distal half broadened, incurved at middle on posterior margin, forming a pair of posterolateral lobes. Phallus tubular, with many scobinations on distal half; vesica without cornutus.

Female genitalia (Fig. 5): Anal papilla strong, weakly fused dorsally, somewhat tapered distally. Posterior apophysis about twice length of anal papilla. Eighth abdominal tergite about 1/2 length of posterior apophysis. Anterior apophysis about 1/2 length of posterior apophysis. Ostium broad and large. Lamella postvaginalis nearly trapezoidal, height about 2/5 length of anterior apophysis, narrower than half width of eighth tergite; lamella antevaginalis broader than eighth tergite, crescent-shaped, caudal margin greatly arched inward. Ductus bursae slender, about twice length of posterior apophysis; ductus seminalis arising from near base of ductus bursae. Corpus bursae oval, obviously longer and wider than eighth tergite; signum inverted U-shaped, serrate on inner margin.

Etymology. The specific name is formed by the Latin prefix *capac-* = broad and the Latin name *uncus*, in reference to the broad uncus.

Remarks. There is slight variation in the male valva. It is longer in the specimen collected in the Guizhou Province than in the specimens collected at other localities.

This species resembles *R. eurydyce* in male genitalia, but it can be distinguished easily by the antemedial fascia of the forewing conspicuously curved medially, and the valval costa produced into a prong that extends to the tip of the cucullus. In *R. eurydyce*, the antemedial fascia of the forewing nearly straight medially, the valval costa produced into a prong that only extends to about 2/3 of the valva.

ACKNOWLEDGEMENTS

We express our cordial thanks to the members of the Lepidopterology Laboratory, College of Life Sciences, Nankai University, for their collecting efforts. The research was supported by the National Nature Science Foundation of China (J0630963).

LITERATURE CITED

- Bleszynski, S.** 1963. Studies on the Crambinae (Lepidoptera). Part 41. On some tropical Crambidae with descriptions of the new genera and species. *Acta zoologica cracoviensia* 8: 133-181.
- Bleszynski, S.** 1965. Crambinae, *In*, H. G. Amsel, H. Reisser, and F. Gregor (Editors), *Microlepidoptera Palaearctica* 1. Verlag Georg Fromme & Co., Wien. 553 pp.
- Caradja, A.** 1931. Dritter Beitrag zur Kenntnis der Pyraliden von Kwanhsien und Mokanshan (China). *Bulletin de la Section Scientifique de l'Académie Roumaine* 14: 203-212.
- Chen, T. M., S. M. Song, and D. C. Yuan.** 2002. A study on the genus *Roxita* Bleszynski from China, with descriptions of two new species (Lepidoptera: Pyralidae, Crambinae). *Acta Entomologica Sinica* 45 (1): 109-114.
- Gaskin, D. E.** 1984. The genus *Roxita* Bleszynski (Lepidoptera, Pyralidae, Crambinae): new species and combinations and a reappraisal of its relationships. *Tijdschrift voor Entomologie* 127 (2): 17-31.
- Inoue, H.** 1989. Notes on some species of the Crambinae from Taiwan and Japan, with descriptions of three new species (Lepidoptera: Pyralidae). *Akitu* 104: 1-8.
- Snellen, P. C. T.** 1893. Beschrijving en Afbeelding van eenige nieuwe of weinig bekende Crambidae. *Tijdschrift voor Entomologie* 36: 54-66.
- Wileman, A. E. and R. South.** 1917. New species of Lepidoptera from Japan and Formosa. *The Entomologist*, London 50: 145-148.